REMARKS

The requisite fee of $230.00 for a two-month extension of time may be charged to Deposit Account No. 02-1818. Any fees that may be due in connection with the filing of this paper or with this application may be charged to Deposit Account No. 02-1818. If a Petition for Extension of Time is needed, this paper is to be considered such Petition.

TRAVERSAL OF FINDING OF LACK OF UNITY

Claims 1-40 are pending and are subject to a restriction requirement. The Office Action restricts the pending claims into three groups as follows:

Group 1: claims 1-25 and 31-36, drawn to a cationic oligomer of a saccharide and methods of making the oligomers;

Group 2: claims 26, 27, 37 and 38, drawn to a method of enantiomeric separation of racemates using the cationic oligomers; and

Group 3: claims 28-30, 39 and 40, drawn to a method of asymmetric synthesis using the cationic oligomers.

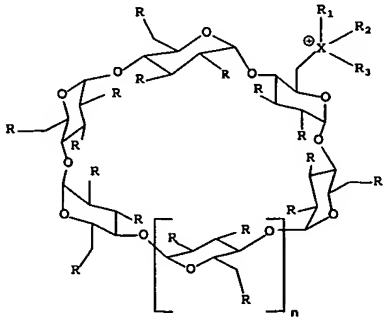
The Examiner, recognizing that the rules of unity of invention under PCT Rule 13.1 apply to the instant case, urges that there is a lack of unity because the three groups allegedly do not relate to a single inventive concept. This conclusion is based upon the premise that a special technical feature among the groups, the cationic oligomer of a saccharide, is disclosed in Dow *et al.* (WO 97/49735, published 31 December 1997). The Examiner alleges that the compound described on page 12, line 5 of Dow *et al.* is within the scope of the instant claims. The Examiner alleges that, because Dow *et al.* discloses a molecule within the scope of the claims of Group I, Dow *et al.* destroys unity.

Reconsideration of the Requirement respectfully is requested in view of the following remarks.

The Claims

Independent claim 1 of Group I is directed to:

A cationic oligomer of a saccharide of the general formula (I)



(I)

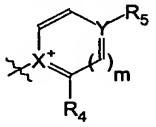
wherein n = 0 to 8;

X is nitrogen or phosphorus;

R is a hydroxyl, an ester, a carbamate, a carbonate, a phosphinate, a phosphonate, a phosphate, a sulfinate, a sulfite, a sulfonate, a sulphate, or R'O-, wherein R' is linear or branched (C_1-C_{20})alkyl, hydroxy(C_1-C_{20})alkyl, carboxy(C_1-C_{20})alkyl, aryl, or aryl(C_1-C_{20})alkyl; and

R_1, R_2 and R_3 are each independently selected from the group consisting of hydrogen, linear or branched (C_1-C_{20})alkyl, linear or branched (C_1-C_{20})-alkenyl, linear or branched (C_1-C_{20})alkynyl, and cycloalkyl; or

R_1 is absent, and R_2 and R_3 are taken together with X to form a ring having the following structure:



wherein m = 0 or 1;

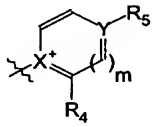
Y is carbon or nitrogen;

R_4 is hydrogen, linear or branched (C_1-C_{20})alkyl, linear or branched (C_1-C_{20})-alkenyl, linear or branched (C_1-C_{20})alkynyl, or cycloalkyl; and

R_5 is hydrogen, 2-(2-ethoxyethoxy)ethyl, linear or branched (C_1-C_{20})-alkyl, linear or branched (C_1-C_{20})alkenyl, linear or branched (C_1-C_{20})alkynyl, cycloalkyl, or NR_6R_7, wherein R_6 and R_7 are each independently selected from the group consisting of hydrogen, linear or branched (C_1-C_{20})alkyl, linear or branched (C_1-C_{20})alkenyl, linear or branched (C_1-C_{20})alkynyl, and cycloalkyl.

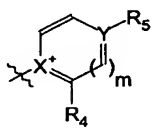
Independent claim 7 of Group I is directed to a sub-genus of the compounds of claim 1, where R_1, R_2 and R_3 are each independently selected from among hydrogen, linear or branched (C_1-C_{20})alkyl, linear or branched (C_1-C_{20})alkenyl, linear or branched (C_1-C_{20})-alkynyl, and cycloalkyl.

Independent claim 10 of Group I is directed to a sub-genus of compounds of claim 1, where R_1 is absent, and R_2 and R_3 are taken together with X to form a ring having the following structure:



where m = 0, X is nitrogen and Y is nitrogen.

Independent claim 12 of Group I is directed to a sub-genus of the compounds of claim 1 where R_1 is absent, and R_2 and R_3 are taken together with X to form a ring having the following structure:



where m is 1, X is nitrogen, Y is carbon and R_4 is hydrogen.

Thus, a cationic oligomer of formula I is shared among the product claims of Group I.

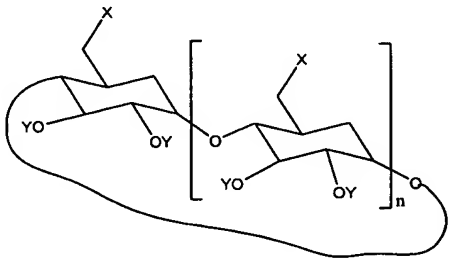
The claims of Group II are directed to methods for enantiomeric separation of a mixture of racemates using a compound of claims of Group I as a chiral agent.

The claims of Group III are directed to methods for asymmetric synthesis of a compound using a compound of claims of Group I as a chiral agent.

Hence, the cationic oligomer of a saccharide of claim 1 is a technical feature shared among all claims. As discussed below, the cationic oligomer of a saccharide of claim 1 is novel over the cited art. Therefore, all pending claims are unified.

Disclosure of the Cited Art

Dow *et al.* discloses sulfated and aminated cyclodextran derivatives. Dow *et al.* discloses that in its homogeneous amine cyclodextran derivatives, all primary face carbon-6 positions have a nitrogen that is part of an amine functionality (page 7, lines 6-10). Dow *et al.* discloses homogeneously derivatized cyclodextrins, in which each monomer of the cyclodextrin is substituted with a moiety X, as shown below:



where n is an integer from 5 to 12; X is selected from the group consisting of NH_2, NH_3Q, NH_2RQ, NHR_2Q, NR_3Q, $NHRR^1Q$, NRR^1R^2Q, NR_2R^1Q, CH_2NH_2, CH_2NH_3Q, CH_2NH_2RQ, CH_2NHR_2Q, CH_2NR_3Q, CH_2NHRR^1Q, $CH_2NRR^1R^2Q$, $CH_2NR_2R^1Q$, SR^3 and $SO_3^-Z^+$; Y is selected from H, alkyl or carboxyl ester chains containing from 1-20 carbon atoms which may contain nitrogen and unsaturations; where R, R^1 and R^2 are the same or different containing 1-20 carbon atoms, 1-10 nitrogen atoms, 1-4 oxygen atoms, and 4-80 hydrogen atoms, and with 1-10 counterions, and including groups in which C, H and N are present in a heterocyclic ring; or $C_3H_6SO_3Z$; R^3 is H or R; Q is an anionic counterion; and Z is a cation selected from the group consisting of proton, sodium, potassium or trialkylammonium.

Analysis

The compound of Dow *et al.* cited by the Examiner as allegedly destroying unity of the instant claims is per-6-imidazolyl-6-deoxy-β-cyclodextrin. The cited compound is a

cyclodextrin in which each monomer of the cyclodextrin is substituted with an imidazolyl moiety (as illustrated above, each X is an imidazolyl moiety). In the instantly claimed cationic compounds of Group I, the cationic moiety, such as a charged methylimidazolium moiety, is present on only one monomer of the cyclodextrin. Hence, the homogeneously derivatized cyclodextrins of Dow *et al.*, which include a moiety X on each monomer of the cyclodextran, are not within the scope of the product claims of Group I. Dow *et al.* does not describe derivatized cyclodextrins in which only one monomer of a cyclodextran includes a cationic moiety. Hence, the cationic derivatized cyclodextrins of the claims of Group I are novel over the compounds described in Dow *et al.* The claims of Group II and Group III are directed to methods of use of the compounds of claims of Group I. Thus, the instantly claimed cationic derivatized cyclodextrins of claim 1 of Group I are a novel technical feature shared among all claims. Therefore, all pending claims (*i.e.*, Groups I-III) are unified and should be examined in this application.

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In view of the election and remarks herein, withdrawal of the restriction requirement, examination on the merits and allowance are respectfully requested.

Respectfully submitted,

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